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WOOD ANATOMY OF *HEVEA BRASILIENSIS* (WILLD. EX ADR. DE JUSS.) MUELL. ARG. 1 : DISTRIBUTION PATTERN OF TENSION WOOD AND DIMENSIONAL VARIATION OF WOOD FIBRES

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The distribution and proportion of tension and normal wood, the dimensional variations of wood fibres with emphasis on positional effect and their variation from tree to tree were studied in clone PB 86 of *Hevea brasiliensis*. The formation of tension wood was associated with growth eccentricity. The proportion of tension wood increased with the increase in sampling height. The tension wood fibres (gelatinous fibres) were short and broad as compared to the normal wood fibres. The average fibre length showed significant difference among various height levels of the tree trunk.

Key words *Hevea brasiliensis*, Rubber wood, Tension wood, Wood fibre, Gelatinous fibre.

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INTRODUCTION

Wood is one of the most valuable raw materials, which has a vital role in the economic and industrial development of a nation. Shortage of good quality timber and its ever increasing demand for industrial utilisation drive us for exploring the available sources of wood. Rubber wood has been considered to be a waste product in rubber plantations (Silva, 1970), but this situation is changing rapidly. Rubber plantations in India have vast potentialities in supplying wood for various wood-based industries. The estimated area under rubber cultivation by the close of 1986-87 was 3,84,000 ha (Rubber Board, 1987). About 5,000 ha had been replanted annually during the past five years. It has been estimated that one hectare of rubber plantation will yield 198.22 m^3 of rubber wood at the time of replanting, and with the present rate of replantation 9,91,108 m^3 of wood per annum will be available, of which 60 per cent will be trunk wood, usable for various industrial purposes (Viju Ipe *et al*, 1987).

Our information on the basic structure of rubber wood is very meagre. It was hence thought worthwhile to undertake a study on the structural features of rubber wood. Certain selected wood quality indicators, especially the dimensional aspects of fibres and the proportion of tension wood, were studied.

MATERIALS AND METHODS

Two healthy trees of the clone PB 86 of *Hevea brasiliensis* (Willd. ex Adr. de Juss.) Muell. Arg., about 35 years of age, at the time of felling were chosen for the present investigation. Wood discs of 10 cm thickness were sawn out at 60 cm, 210 cm and